

Ser. No. 09/876,151

Docket No. 1567.1009

AMENDMENTS TO THE CLAIMS:

All pending claims are set forth below. Cancelled and withdrawn claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (previously amended), (cancelled), (withdrawn), (new), (previously added), (reinstated - formerly claim #), (previously reinstated), (re-presented - formerly dependent claim #), or previously re-presented). Please AMEND claims 5 and 19 and CANCEL claims 18 and 20 without prejudice or disclaimer in accordance with the following:

1. (cancelled)

2. (previously amended) The lithium battery according to claim 5, wherein the liquid lithium metal is coated using a doctor blade.

3. (previously amended) The lithium battery according to claim 5, wherein the liquid lithium metal is coated using a calendering process.

4. (cancelled)

5. (currently amended) A lithium battery comprising:
a lithium negative electrode prepared by melting lithium metal under an inert gas atmosphere and coating the liquid lithium metal uniformly on a metal current collector;
a positive electrode including a binder;
a separator placed between the positive and negative electrodes; and
an electrolyte comprising a lithium salt and organic solvents, contained in the positive and negative electrodes and the separator,
wherein the current collector is nickel, copper or a metal-sprayed nickel or copper, and the metal being sprayed is a lithium-wetting metal,
wherein the lithium-wetting metal is selected from the group consisting of Al, Si, and Sn.

6. (previously amended) The lithium battery according to claim 5, wherein the binder is selected from the group consisting of polyvinylidene fluoride, polytetrafluoroethylene, polyvinyl acetate, polyethylene oxide, polypyrrolidone, and polyvinyl alcohol.

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7. (cancelled)

8. (previously amended) The lithium-sulfur battery according to claim 10, wherein the liquid lithium metal is coated using a doctor blade.

9. (previously amended) The lithium-sulfur battery according to claim 10, wherein the liquid lithium metal is coated using a calendaring process.

10. (previously amended) A lithium-sulfur battery comprising:
a lithium negative electrode prepared by melting lithium metal under an inert gas atmosphere and coating the liquid lithium metal on a metal current collector;
a positive electrode comprising a positive active material, an electrically conductive material and a binder, the positive active material comprising at least one sulfur-based material selected from the group consisting of elemental sulfur and solid Li_2S_n ($n \geq 1$) coated on a current collector;
a separator placed between the positive and negative electrodes; and
an electrolyte comprising a lithium salt and organic solvents, contained in the positive and negative electrodes and the separator,
wherein the current collector is nickel, copper or a metal-sprayed nickel or copper, and the metal being sprayed is lithium-wetting metal.

11. (original) The lithium-sulfur battery according to claim 10, wherein the lithium wetting metal is selected from the group consisting of Al, Si, and Sn.

12. (previously amended) The lithium-sulfur battery according to claim 10, wherein the binder is selected from the group consisting of polyvinylidene fluoride, polytetrafluoroethylene, polyvinyl acetate, polyethylene oxide, polypyrrolidone, and, polyvinyl alcohol.

13. (previously amended) The lithium battery according to claim 5, wherein the lithium battery retains 90% or greater of a capacity at the fiftieth charging and discharging cycle as compared to the capacity at the first charging and discharging cycle.

14. (previously amended) The lithium battery according to claim 5, wherein the lithium battery retains 70% or greater of a capacity at the one hundredth charging and discharging cycle as compared to the capacity at the first charging and discharging cycle.

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15. (original) The lithium battery according to claim 13, wherein the lithium battery retains 70% or greater of the capacity at the one hundredth charging and discharging cycle as compared to the capacity at the first charging and discharging cycle.

16. (previously amended) The lithium battery according to claim 10, wherein the lithium battery retains 90% or greater of a capacity at the fiftieth charging and discharging cycle as compared to the capacity at the first charging and discharging cycle.

17. (previously amended) The lithium battery according to claim 10, wherein the lithium battery retains 70% or greater of a capacity at the one hundredth charging and discharging cycle as compared to the capacity at the first charging and discharging cycle.

18. (cancelled)

19. (currently amended) A method of manufacturing a lithium battery, comprising:
melting a lithium metal under a gas atmosphere to produce the liquid lithium metal;
coating the liquid lithium metal on a current collector to create a negative electrode;
obtaining a positive electrode that includes a binder;
placing a separator between the positive and negative electrodes to produce an assembly;
and
soaking an electrolyte into the assembly.

20. (cancelled)